

**CLAIMS**

- 5                    1. A method of decoding an encoded digital image, the encoded data of the image comprising a plurality of predefined resolutions, comprising the steps of:
- selecting a resolution lower than the highest of the predefined resolutions,
  - 10                    - determining the predefined resolution immediately above the selected resolution,
  - determining a quantity of data of the determined predefined resolution, as a function of the ratio between the selected resolution and the determined predefined resolution,
  - 15                    - decoding the image at the determined predefined resolution, as a function of the determined quantity of data,
  - subsampling the decoded image, as a function of the ratio between the selected resolution and the determined predefined resolution.
- 20                    2. A decoding method according to claim 1, comprising the prior display of the image at a predefined initial resolution and in that the selection of a resolution is an instruction for change of size of the image with respect to the predefined initial resolution.
- 25                    3. A decoding method according to claim 1, the encoded data comprising a plurality of layers within each predefined resolution, wherein the determination of a quantity of data is the determination of a number of layers of the determined predefined resolution.
- 30                    4. A decoding method according to claim 1, wherein the determination of a quantity of data of the determined predefined resolution is performed as a function of the ratio between the number of pixels of the

selected resolution and the number of pixels of the determined predefined resolution.

5           5. A decoding method according to claim 1, wherein the decoding of the image at the determined predefined resolution is furthermore carried out as a function of the data of the predefined resolutions lower than the selected resolution, if the determined predefined resolution is not the lowest for the image considered.

10           6. A method of decoding encoded data, the encoded data comprising a plurality of predefined resolutions  $R_n$ , comprising the steps of:

- determining an intermediate resolution between a first resolution  $R_a$  and a second resolution  $R_{a+1}$ ,
- determining a quantity of encoded data of the second resolution

15   corresponding to the intermediate resolution,

- decoding the determined quantity of encoded data, and
- scaling the decoded image, as a function of the ratio between the intermediate resolution and one of the predefined resolutions  $R_n$ ,

          wherein said determined quantity of encoded data includes encoded

20   data corresponding to said first resolution  $R_a$ , and a part of encoded data included in encoded data corresponding to the second resolution  $R_{a+1}$  but not included in the encoded data corresponding to said first resolution  $R_a$ .

25           7. A method of decoding encoded data, the encoded data comprising a plurality of predefined resolutions, comprising the steps of:

- selecting an intermediate resolution between a first predefined resolution and a second predefined resolution, the second resolution being higher than the first resolution,
- determining a quantity of encoded data of the second resolution

30   depending on the intermediate resolution,

- decoding the determined quantity of encoded data, and

- subsampling the decoded data from the second resolution to the intermediate resolution.

8. A decoding method according to claim 7, wherein said determined  
5 quantity of encoded data is function of the ratio between the intermediate resolution and the second resolution.

9. A device for decoding an encoded digital image, the encoded data  
of the image comprising a plurality of predefined resolutions,  
10 comprising:  
- means for selecting a resolution lower than the highest of the predefined resolutions,  
- means for determining the predefined resolution immediately above the selected resolution,  
15 - means for determining a quantity of data of the determined predefined resolution, as a function of the ratio between the selected resolution and the determined predefined resolution,  
- means for decoding the image at the determined predefined resolution, as a function of the determined quantity of data,  
20 - means for subsampling the decoded image, as a function of the ratio between the selected resolution and the determined predefined resolution.

10. A decoding device according to claim 9, comprising means for prior display of the image at a predefined initial resolution and in that the means  
25 for selecting a resolution make it possible to enter an instruction for change of size of the image with respect to the predefined initial resolution.

11. A decoding device according to claim 10, the encoded data comprising a plurality of layers within each predefined resolution, wherein the  
30 means for determining a quantity of data are adapted to determine a number of layers of the determined predefined resolution.

12. A decoding device according to claim 9, wherein the means for determining a quantity of data of the determined predefined resolution are adapted to perform the determination as a function of the ratio between the number of pixels of the selected resolution and the number of pixels of the determined predefined resolution.

13. A decoding device according to claim 9, wherein the means for decoding the image at the determined predefined resolution are adapted to perform the decoding furthermore as a function of the data of the predefined resolutions lower than the selected resolution, if the determined predefined resolution is not the lowest for the image considered.

14. A device for decoding encoded data, the encoded data comprising a plurality of predefined resolutions  $R_n$ , comprising the steps of:

- means for determining an intermediate resolution between a first resolution  $R_a$  and a second resolution  $R_{a+1}$ ,
- means for determining a quantity of encoded data of the second resolution corresponding to the intermediate resolution,
- means for decoding the determined quantity of encoded data, and
- means for scaling the decoded image, as a function of the ratio between the intermediate resolution and one of the predefined resolutions  $R_n$ ,

wherein said determined quantity of encoded data includes encoded data corresponding to said first resolution  $R_a$ , and a part of encoded data included in encoded data corresponding to the second resolution  $R_{a+1}$  but not included in the encoded data corresponding to said first resolution  $R_a$ .

15. A device for decoding encoded data, the encoded data comprising a plurality of predefined resolutions, comprising:

- means for selecting an intermediate resolution between a first predefined resolution and a second predefined resolution, the second resolution being higher than the first resolution;

- means for determining a quantity of encoded data of the second resolution depending on the intermediate resolution;
- means for decoding the determined quantity of encoded data;
- means for subsampling the decoded data from the second resolution to the intermediate resolution.

16. A decoding device according to claim 15, wherein said determined quality of encoded data is function of the ratio between the intermediate resolution and the second resolution.

10

17. A decoding device according to any one of claims 9, 14 and 15, characterized in that the means for selecting, determining, decoding and subsampling are incorporated in:

- a microprocessor,
- a read only memory, comprising a program for processing the data,
- and
- a random access memory comprising registers adapted to record variables modified during the execution of said program.

18. An apparatus for processing a digital image, characterized in that it comprises means adapted to implement the method according to claim 1.

19. An apparatus for processing a digital image, characterized in that it comprises the device according to any one of claims 9, 14 and 15.

25